



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/695,169	10/29/2003	You-Young Jung	1349.1266	7130
21171	7590	02/24/2005	EXAMINER	
STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			WALLING, MEAGAN S	
			ART UNIT	PAPER NUMBER
			2863	

DATE MAILED: 02/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

Office Action Summary

Application No.

10/695,169

Applicant(s)

JUNG, YOU-YOUNG

Examiner

Meagan S Walling

Art Unit

2863

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 7-9, 13 and 17 is/are rejected.
- 7) ☒ Claim(s) 4-6, 10-12 and 14-16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11/20/03, 2/27/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-3, 7-9, 13, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Ward et al. (US 6,061,100).

Regarding claim 1, Ward et al. teaches a motion detection unit sequentially being input with a plurality of fields that are temporally successive and detecting motion information values representing presence and absence of a motion for each pixel/block of an input nth field (column 4, line 66 – column 5, line 5); a motion calculation buffer storing the motion information values for each pixel/block (column 10, lines 9-13); and a motion calculator correcting the motion information values of the input nth field stored in the motion calculation buffer unit, based on the motion information values of an input n+1th field detected by the motion detection unit (column 6, lines 55-57).

Regarding claim 2, Ward et al. teaches a motion expansion unit expanding an extent of a pixel motion detected based upon a motion information value from the pixel with the motion to a neighboring pixel (column 8, lines 10-14).

Regarding claim 3, Ward et al. teaches that the motion detection unit calculates each motion information value based upon a previous field and a next field immediately before and after the nth field, respectively, and depending on a difference of the pixel values between

Art Unit: 2863

pixels/blocks at corresponding locations in the previous field and the next field (column 6, lines 55-57).

Regarding claim 7, Ward et al. teaches sequentially inputting a plurality of fields that are temporally successive (column 6, lines 12-14); detecting motion information values representing presence and absence of a motion for each pixel/block of an input n th field (column 6, lines 37-42); storing the motion information values for each pixel/block (column 10, lines 9-13); and correcting the motion information values of the input n th field stored in the motion calculation buffer unit, based on the motion information values of an input $n+1$ th field (column 6, lines 55-57).

Regarding claim 8, Ward et al. teaches expanding an extent of a pixel motion detected from a motion information value from the pixel with the motion to a neighboring pixel (column 8, lines 10-14).

Regarding claim 9, Ward et al. teaches calculating the motion information values based upon a previous field and a next field immediately before and after the input n th field, respectively, and depending on a difference of the pixel values between pixels/blocks at corresponding location in the previous field and the next field (column 6, lines 55-57).

Regarding claim 13, Ward et al. teaches a motion detector detecting motion information values representing presence and absence of a motion for each pixel/block of an input n th image field (column 6, lines 37-42); and a motion calculator adjusting the detected motion information values of the input n th image field based upon motion information values of an input $n+1$ th image field (column 6, lines 55-57).

Regarding claim 17, Ward et al. teaches removing spurious still regions and spurious motion regions during an image field motion detection based upon a limited added to or a limited subtracted from pixel motion information values of a current image field using only immediately preceding and succeeding image fields to the current image field (column 6, lines 55-57 and column 6, line 66 – column 7, line 7).

Allowable Subject Matter

2. Claims 4-6, 10-12, and 14-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The primary reason for the indication of allowability of claim 4 is the inclusion of the limitation that the motion calculation unit corrects the motion information values of the input nth field, based on the motion information value for each pixel/block of the n+1th field, by adding a given first value to a motion information value stored in the motion calculation buffer unit if a corresponding pixel/block has motion, and subtracting a given second value from a motion information value stored in the motion calculation buffer unit if a corresponding pixel/block has no motion. It is this limitation in the claimed combination that has not been found, taught, or suggested by the prior art that makes these claims allowable.

The primary reason for the indication of allowability of claim 10 is the inclusion of the limitation that the correcting of the motion information values comprises, for each pixel/block of the n+1th field, adding a given first value to a stored motion information value if a corresponding

Art Unit: 2863

pixel/block has motion, and subtracting a given second value from a stored motion information value if the corresponding pixel/block has no motion. It is this limitation in the claimed combination that has not been found, taught, or suggested by the prior art that makes these claims allowable.

The primary reason for the indication of allowability of claim 14 is the inclusion of the limitation that the motion calculator calculates a mixed value (.alpha.) according to the adjusted detected motion information values of the input nth image field and outputs the mixed value to a deinterlacing processor outputting an image frame based upon the mixed value. It is this limitation in the claimed combination that has not been found, taught, or suggested by the prior art that makes these claims allowable.

The primary reason for the indication of allowability of claim 16 is the inclusion of the limitation that the motion information values are adjusted according to a formula $V(i, j) = V(i, j) + T1$ or a formula $V(i, j) = V(i, j) - T2$, and wherein the $V(i, j)$ represents a motion information value for jth pixel on line ith of the input nth image field, and T1 and T2 are random first and second values within a predetermined range, respectively. It is this limitation in the claimed combination that has not been found, taught, or suggested by the prior art that makes these claims allowable.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Meagan S Walling whose telephone number is (571) 272-2283. The examiner can normally be reached on Monday through Friday 8:30 AM to 5 PM.

Art Unit: 2863

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on (571) 272-2269. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

msw



John Barlow
Supervisory Patent Examiner
Technology Center 2800